Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL GUIDELINE CLEARINGHOUSE

General

Guideline Title

Evaluation and management of ovulatory heavy menstrual bleeding (HMB) in primary care.

Bibliographic Source(s)

University of Texas at Austin, School of Nursing, Family Nurse Practitioner Program. Evaluation and management of ovulatory heavy menstrual bleeding (HMB) in primary care. Austin (TX): University of Texas at Austin, School of Nursing; 2012 Mar. 18 p. [38 references]

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

Strength of recommendations (A, B, C, D, I) and quality of evidence (High, Moderate, Low) are defined at the end of the "Major Recommendations" field.

Evaluation

History Taking & Diagnostics for Heavy Menstrual Bleeding (HMB)

Initially, a history should be taken from the woman, which should cover the nature of the bleeding (onset duration and quantity), related symptoms that might suggest structural or histological abnormality (pelvic pressure, change in urinary symptoms, dyspareunia), impact of quality of life and other factors that may determine treatment options (such as presence of medications, comorbidities or family history of bleeding disorders). (Brenner, 1996; Cameron 1989; Ely et al., 2006; Hurskainen et al., 2007; Munro et al., 2011; Munro, 2007; Sweet et al., 2012) (Grade A, Moderate Certainty)

Clinicians should take into account the range and natural variability in menstrual cycles and blood loss when diagnosing HMB (defined as a blood loss >80 mL per period), and discuss this variation with the woman. For instance, number of pads/tampons used, needing to change pads/tampons frequently (2 hr or less), period lasting more than 7 days, and bleeding associated with perceived or actual excessive blood loss. If the woman feels that she does not fall within the normal ranges or describes excessive menstrual bleeding then care options should be discussed. (Brenner, 1996; Cameron, 1989; Edmonds, 1989; Fraser, Warner, & Marantos, 2001; Garside, Britten, & Stein, 2008; Warner et al., "Menorrhagia II," 2004) (Grade A, Moderate Certainty)

If the history suggests HMB with structural or histological abnormality, with symptoms such as intermenstrual or post-coital bleeding, pelvic pain and/or pressure symptoms, a physical examination and/or other investigations (such as ultrasound) should be performed. (Ely et al., 2006;

Hurskainen et al., 2007; Sweet et al., 2012) (Grade B, Moderate Certainty)

Measurement of Menstrual Blood Loss

Measuring menstrual blood loss either directly (alkaline hematin) or indirectly (pictorial blood loss assessment chart) is not recommended for HMB. Whether menstrual blood loss is a problem should be determined not by measuring but by the woman herself, and then evaluated by the health care provider. (Garside, Britten, & Stein, 2008; Warner et al., "Menorrhagia I," 2004; Warner et al., "Menorrhagia II," 2004) (Grade B, Moderate Certainty)

Physical Examination for HMB

A physical examination should be carried out (including pelvic and abdominal exam) before (Brenner, 1996; Cameron, 1989; Ely et al., 2006; Munro et al., 2011; Sweet et al., 2012) (Grade A, High Certainty):

- Long-acting reversible contraception is initiated
- Investigations for structural abnormalities are done
- Investigations for histological abnormalities are done

Women with fibroids that are palpable abdominally or who have intra-cavity fibroids and/or whose uterine length, as measured at ultrasound or sonohysterogram, is greater than 12 cm should be offered immediate referral to a specialist. (Ely et al., 2006; Hurskainen et al., 2007; Sweet et al., 2012) (Grade A, Moderate Certainty)

Laboratory Tests for HMB

A complete blood count should be carried out on all women with HMB. (Cameron, 1989; Ely et al., 2006; Munro, 2007; Sweet et al., 2012) (Grade A, High Certainty)

Testing for coagulation disorders (for example, von Willebrand disease) should be considered in women who have had HMB since menarche and have personal or family history suggesting a coagulation disorder such as bruising without known injury (or easy bruisability) or mucous membrane bleeding (e.g., epistaxis greater than 10 minutes duration; bleeding w/brushing teeth). (Edmonds, 1989; Ely et al., 2006; Munro et al., 2011; Sweet et al., 2012) (Grade B, Moderate Certainty)

A serum ferritin test should not routinely be carried out on women with HMB. (Ely et al., 2006; Sweet et al., 2012) (Grade B, Moderate Certainty)

Female hormone testing should not be carried out on women with HMB. (Cameron, 1989; Sweet et al., 2012) (Grade B, Moderate Certainty)

Thyroid testing should be carried out in all women presenting with HMB even if other signs and symptoms of thyroid disease are not present. (Cameron, 1989; Edmonds, 1989; Ely et al., 2006; Hurskainen et al., 2007; Munro, 2007; Sweet et al., 2012; Wilansky & Greisman, 1989) (Grade A, High Certainty)

Treatment for a thyroid-stimulating hormone (TSH) >3 should be considered in any woman presenting with HMB. (Wilansky & Greisman, 1989) (Grade B, Moderate Certainty)

A pregnancy test should be given for women who are sexually active presenting with HMB. (Cameron, 1989; Edmonds, 1989; Ely et al., 2006; Hurskainen et al., 2007; Munro, 2007; Sweet et al., 2012) (Grade B, High Certainty)

Pap smear should be up to date or perform Pap smear. (Ely et al., 2006; Sweet et al., 2012) (Grade A, Moderate Certainty)

Further Diagnostic Testing for HMB

If appropriate, a biopsy should be taken to exclude endometrial cancer or atypical hyperplasia. Indications for a biopsy include: persistent inter-menstrual bleeding, no definite cause of HMB identified, in women aged 35 and over, and treatment failure or ineffective treatment. (Ely et al., 2006; Munro et al. 2011; Sweet et al. 2012) (Grade B, Moderate Certainty)

Imaging should be undertaken in the following circumstances (Ely et al., 2006; Hurskainen et al., 2007; Sweet et al., 2012) (Grade B, Moderate Certainty):

- The uterus is palpable abdominally
- Vaginal examination reveals a pelvic mass of uncertain origin
- Pharmaceutical treatment fails

Ultrasound is the first-line diagnostic tool for identifying structural abnormalities. (Cameron, 1989; Ely et al., 2006; Munro et al., 2011) (Grade A, High Certainty)

Referral for hysteroscopy should be used as a diagnostic tool only when ultrasound results are inconclusive, for example, to determine the exact location of a fibroid or the exact nature of the abnormality. (Ely et al., 2006; Munro et al., 2011; Sweet et al., 2012) (Grade A, Moderate Certainty)

If imaging shows the presence of uterine fibroids then appropriate treatment should be planned based on size, number and location of the fibroids. (Ely et al., 2006; Sweet et al., 2012) (Grade A, High Certainty)

Also consider referral for endometrial biopsy in women between the ages of 18 and 35 who have risk factors for endometrial cancer: family or personal history of ovarian, breast, colon, or endometrial cancer; tamoxifen use; chronic anovulation; obesity; estrogen therapy; prior endometrial hyperplasia; diabetes. (Ely et al., 2006; Munro et al., 2011; Sweet et al., 2012) (Grade B, Moderate Certainty)

Saline infusion sonography (sonohysterography) should not be used as a first-line diagnostic tool. (Cameron, 1989; Ely et al., 2006; Sweet et al., 2012) (Grade A, Moderate Certainty)

Pharmacological Interventions

The following recommendations are based upon good clinical practice:

- Pharmacologic treatment should be considered for heavy menstrual bleeding after underlying etiologies have been ruled out.
- When selecting the appropriate treatment, patient preference and the need for contraception should be taken into account, as well as benefits and risk associated with each agent.
- Non-hormonal agents: if there is no improvement in HMB after three cycles the treatment should be stopped.

Hormonal Agents

1. Intrauterine Levonorgestrel-Releasing Systems (Mirena) – first line therapy (Lethaby, Cooke, & Rees, 2010) (Grade A, High Certainty)
    - Indicated for women who prefer long term contraception (5 years) (Bednarek & Jensen, 2009; Lethaby, Cooke, & Rees, 2010) (Grade A, High Certainty)
    - Proved to be effective and well tolerated in the short-/mid-term treatment of fibroid-related heavy menstrual bleeding, the symptomatic treatment of endometriosis and adenomyosis, as well as in cases of endometrial hyperplasia (Heikinheimo & Gemzell-Danielsson, 2012) (Grade B, Moderate Certainty)
    - Reduces HMB 88.4% by 1 year (Ghazizadeh et al., 2011) (Grade A, Moderate Certainty)
    - More cost effective than hysterectomy or ablation (Lethaby, Cooke, & Rees, 2010; Sweet et al., 2012) (Grade A, High Certainty)
    - Reduces incidence of hysterectomy (Lethaby, Cooke, & Rees, 2010; Sweet et al., 2012) (Grade A, High Certainty)
    - Minimally invasive (Lethaby, Cooke, & Rees, 2010; Sweet et al., 2012) (Grade A, High Certainty)
    - Preserves fertility, good option for younger women (Bednarek & Jensen, 2009; Sweet et al., 2012) (Grade A, Moderate Certainty)
    - Systemic side effects: breast tenderness, acne, mood changes, headaches, and bloating (Ghazizadeh et al., 2011) (Grade A, High Certainty)
    - Most common side effect is spotting (Ghazizadeh et al., 2011) (Grade A, High Certainty)
2. Combined Oral Contraceptives (COCs)
    - Indicated for patients who require contraception but do not wish to use an intrauterine device (IUD) (Kiley & Shulman, 2011; Sweet et al., 2012) (Grade A, Moderate Certainty)
    - Greater reductions in blood loss than placebo (Fraser et al., 2011) (Grade B, Moderate Certainty)
    - Also increases in hemoglobin, hematocrit, and ferritin levels (Fraser et al., 2011) (Grade B, Moderate Certainty)
    - Cost effective (Kiley & Shulman, 2011; Sweet et al., 2012) (Grade A, High Certainty)
    - Conditions which contraindicate use include:
        - History of breast cancer
        - History of or current deep venous thrombosis/pulmonary embolism (DVT/PE) or cerebrovascular accident (CVA)
        - Diabetes: insulin-dependent; with nephropathy/retinopathy/neuropathy or other vascular disease; or of >20 years' duration
        - Blood pressure systolic ≥160 mmHg, diastolic ≥100; vascular disease
        - Current and history of ischemic heart disease
        - Complicated valvular heart disease
        - History of peripartum cardiomyopathy
        - Less than 21 days postpartum

        - Smokers ≥35 years
        - Thrombogenic mutations
        - Systemic lupus erythematosus, only with positive (or unknown) phospholipids antibodies
        - History of migraines without aura, age ≥35; migraines with aura, any age
        - Medically treated or current gallbladder disease
        - Hepatocellular adenoma or malignant liver tumor
        - Severe, decompensated cirrhosis
        - Complicated solid organ transplantation (graft failure [acute or chronic], rejection, cardiac allograft vasculopathy) ("Committee opinion no. 505," 2011) (Grade A, High Certainty)
    - Also good option for younger women to preserve fertility (Fraser et al., 2011) (Grade A, High Certainty)
3. Oral/Injected/Implanted (Implanon) Progesterone
    - Indicated for women who have a history of venous thromboembolism (VTE) or Factor V Leiden carrier (Lethaby, Irvine, & Cameron, 2009) (Grade A, Moderate Certainty)
    - Not shown to reduce bleeding as much as IUD (Lethaby, Irvine, & Cameron, 2009; Sweet et al., 2012) (Grade A, High Certainty)
    - Oral progesterone only given during the luteal phase should not be used for the treatment of HMB (Lethaby, Irvine, & Cameron, 2009) (Grade B, Moderate Certainty)

Non-Hormonal Agents

1. Tranexamic Acid (Lysteda)
    - Begin first day of menses and continue for 5 days (Roy & Bhattacharya, 2004; Sweet et al., 2012) (Grade B, Moderate Certainty)
    - Can be adjunct therapy to non-steroidal anti-inflammatory drugs (NSAIDs) (Roy & Bhattacharya, 2004) (Grade B, Moderate Certainty)
    - Shown to reduce menstrual blood loss by 45%-60% through preventing activation of plasminogen (Edlund, 2011; Fraser et al., 2008; Lethaby, Farquhar, & Cooke, 2010; Lukes et al., 2010; Roy & Bhattacharya, 2004; Sweet et al., 2012) (Grade B, High Certainty)
    - Contraindicated if patient has active intravascular clotting or subarachnoid hemorrhage (Sweet et al., 2012) (Grade D, High Certainty)
    - Caution in patients with a risk for or history of thromboembolic or renal disease (Roy & Bhattacharya, 2004; Sweet et al., 2012) (Grade C, High Certainty)
    - No evidence of increased incidence of thromboembolic events during treatment with tranexamic acid (Fraser et al., 2008; Roy & Bhattacharya, 2004; Sweet et al., 2012) (Grade B, Moderate Certainty)
    - More expensive than other therapies (Roy & Bhattacharya, 2004; Sweet et al., 2012) (Grade B, High Certainty)
2. Non-steroidal Anti-inflammatory Drugs (NSAIDs)
    - Ibuprofen, naproxen sodium, and mefenamic acid have been widely studied (Edlund, 2011; Fraser et al., 2008; Roy & Bhattacharya, 2004; Sweet et al., 2012) (Grade B, High Certainty)
    - Begin the first day of menses and continue for 5 days or until menses cease (Sweet et al., 2012) (Grade B, High Certainty)
    - Can be adjunct therapy to COCs, intrauterine contraceptive devices, and tranexamic acid (Fraser et al., 2008; Roy & Bhattacharya, 2004) (Grade B, Moderate Certainty)
    - Shown to reduce menstrual blood loss by 20%-50% through decreasing prostaglandin levels (Edlund, 2011; Fraser et al., 2008; Roy & Bhattacharya, 2004; Sweet et al., 2012) (Grade B, High Certainty)
    - May also improve dysmenorrhea (Fraser et al., 2008; Roy & Bhattacharya, 2004; Sweet et al., 2012)
    - Caution in patients with gastrointestinal risk factors such as history of gastrointestinal (GI) bleed, peptic ulcer disease, or chronic alcohol abuse (Edlund, 2011; Fraser et al., 2008; Roy & Bhattacharya, 2004; Sweet et al., 2012) (Grade C, High Certainty)

<u>Referral Treatment Options</u>

- Endometrial ablation (American College of Obstetricians and Gynecologists, 2008; Apgar et al. 2007; Middleton et al., 2010; Sweet et al., 2012; Stovall, 2011) (Grade A, High Certainty)
- Magnetic-resonance imaging (MRI)-guided focused ultrasound (Fennessy et al., 2007; Stovall, 2011) (Grade B, Moderate Certainty)
- Uterine fibroid embolization (Sweet et al., 2012; Stovall, 2011) (Grade A, High Certainty)
- Myomectomy (Geidam et al., 2011; Sweet et al., 2012) (Grade B, Moderate Certainty)
- Hysterectomy/oophorectomy (Apgar et al., 2007; Bhavnani & Clarke, 2003; Sweet et al., 2012) (Grade C, High Certainty)

<u>Definitions</u>:

Grading of Recommendations (Based on U.S. Preventive Services Task Force [USPSTF] Ratings)

A. The USPSTF strongly recommends that clinicians provide the service to eligible patients. The USPSTF found good evidence that the service improves important health outcomes and concludes that benefits substantially outweigh harms.

B. The USPSTF recommends that clinicians provide this service to eligible patients. The USPSTF found at least fair evidence that the service improves important health outcomes and concludes that benefits outweigh harms.

C. The USPSTF makes no recommendation for or against routine provision of the service. The USPSTF found at least fair evidence that the service can improve health outcomes but concludes that the balance of benefits and harms is too close to justify a general recommendation.

D. The USPSTF recommends against routinely providing the service to asymptomatic patients. The USPSTF found at least fair evidence that the service is ineffective or that harms outweigh benefits.

I. The USPSTF concludes that the evidence is insufficient to recommend for or against routinely providing the service. Evidence that the service is effective is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.

Quality of Evidence (Based on USPSTF Ratings)

High: The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.

Moderate: The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by such factors as:

- The number, size, or quality of individual studies
- Inconsistency of findings across individual studies
- Limited generalizability of findings to routine primary care practice
- Lack of coherence in the chain of evidence

As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.

Low: The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of:

- The limited number or size of studies
- Important flaws in study design or methods
- Inconsistency of findings across individual studies
- Gaps in the chain of evidence
- Findings not generalizable to routine primary care practice
- Lack of information on important health outcomes

More information may allow estimation of effects on health outcomes.

Clinical Algorithm(s)

An algorithm is provided in the original guideline document for the Evaluation and Management of Ovulatory Heavy Menstrual Bleeding in Primary Care.

Scope

Disease/Condition(s)

Heavy menstrual bleeding (menorrhagia)

Guideline Category

Counseling

Diagnosis

Evaluation

Management

Treatment

Clinical Specialty

Family Practice

Internal Medicine

Nursing

Obstetrics and Gynecology

Intended Users

Advanced Practice Nurses

Health Care Providers

Health Plans

Managed Care Organizations

Nurses

Patients

Physician Assistants

Physicians

Guideline Objective(s)

To present a national guideline on the evaluation and management of heavy menstrual bleeding in primary care to include:

- Evaluation of women presenting with heavy menstrual bleeding (HMB)
- Diagnosis of women presenting with HMB, including guidance on appropriate investigations and referral, and the cost-effectiveness of undertaking such investigations
- Medical management of HMB, including short- and long-term outcomes, adverse events, cost effectiveness and subsequent treatment
- Pharmacological management
- Indications for referral to secondary care management
- Patient educational interventions and information provision to improve patient satisfaction

Target Population

Women between the ages of puberty and menopause who have heavy menstrual bleeding (HMB), defined as bleeding that occurs at normal, regular intervals (every 24 to 35 days), but that is excessive in volume and duration (usually >7days)

This guideline does not address the following:

- Women with irregular menstrual bleeding that can be characterized as anovulatory – an example is polycystic ovary syndrome
- Women with conditions where HMB is not the main presenting menstrual symptom – an example is endometriosis, which is often dysmenorrhea associated with pelvic pain; such conditions will not be covered even if there is concurrent menorrhagia
- Issues relating to fertility, which will only be examined as they relate to treatment for HMB but not as a separate issue.
- Women with HMB who are receiving exogenous steroids, such as hormone replacement therapy (HRT)
- Gynecological bleeding problems (other than HMB)
- Women with underlying bleeding disorders
- Women with pregnancy or post-partum bleeding
- Women with post-coital bleeding

Interventions and Practices Considered

Diagnosis/Evaluation

1. History taking, including review of systems, medications and family history
2. Physical examination with genital and pelvic exam
3. Measurement of menstrual blood loss (considered but specifically not recommended)
4. Laboratory tests, including pregnancy test, complete blood count, coagulation test, and thyroid-stimulating hormone level
5. Structural/histological tests, including biopsy, ultrasound and hysteroscopy

Management/Treatment

1. Intrauterine levonorgestrel-releasing systems (Mirena)
2. Combined oral contraceptives (COCs)
3. Oral/injected progesterones
4. Tranexamic acid
5. Non-steroidal anti-inflammatory drugs (NSAIDs)
6. Referral options

Major Outcomes Considered

- Reduction in menstrual blood loss (MBL) associated with HMB
- Complications or adverse events associated with treatments
- Change in health-related quality of life (HRQoL) measures

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Systematic searches were conducted via electronic databases including, UpToDate, PubMed, CINAHL, Cochrane Database, and MEDLINE using keywords: "ovulatory heavy menstrual bleeding," "menorrhagia", "heavy menstrual bleeding," "pharmacologic treatment of heavy menstrual bleeding," "non-pharmacologic treatment of heavy menstrual bleeding," "evaluation and management of heavy menstrual bleeding," and "management of heavy menstrual bleeding in primary care." Literature search was for the past 5 years, 2007-12. However three older journal references were included because of their significance.

Number of Source Documents

Methods Used to Assess the Quality and Strength of the Evidence

Subjective Review

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

The U.S. Preventive Services Task Force (USPSTF) grades the quality of the overall evidence for a service on a 3-point scale (High, Moderate, Low).

High: The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.

Moderate: The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by such factors as:

- The number, size, or quality of individual studies
- Inconsistency of findings across individual studies
- Limited generalizability of findings to routine primary care practice
- Lack of coherence in the chain of evidence

As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.

Low: The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of:

- The limited number or size of studies
- Important flaws in study design or methods
- Inconsistency of findings across individual studies
- Gaps in the chain of evidence
- Findings not generalizable to routine primary care practice
- Lack of information on important health outcomes

More information may allow estimation of effects on health outcomes.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Informal Consensus

Description of Methods Used to Formulate the Recommendations

This guideline is the result of extensive review and synthesis by expert clinicians. A draft of the guideline was developed by a group of family nurse practitioner (FNP) students and submitted for review.

Rating Scheme for the Strength of the Recommendations

The U.S. Preventive Services Task Force (USPSTF) grades its recommendations according to one of five classifications (A, B, C, D, I) reflecting the strength of evidence and magnitude of net benefit (benefits minus harms).

A. The USPSTF strongly recommends that clinicians provide the service to eligible patients. The USPSTF found good evidence that the service improves important health outcomes and concludes that benefits substantially outweigh harms.

B. The USPSTF recommends that clinicians provide this service to eligible patients. The USPSTF found at least fair evidence that the service improves important health outcomes and concludes that benefits outweigh harms.

C. The USPSTF makes no recommendation for or against routine provision of the service. The USPSTF found at least fair evidence that the service can improve health outcomes but concludes that the balance of benefits and harms is too close to justify a general recommendation.

D. The USPSTF recommends against routinely providing the service to asymptomatic patients. The USPSTF found at least fair evidence that the service is ineffective or that harms outweigh benefits.

I. The USPSTF concludes that the evidence is insufficient to recommend for or against routinely providing the service. Evidence that the service is effective is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

The guideline was validated through two consultations.

1. The first draft of the full guideline was submitted to a panel for internal review.
2. The final draft of the full guideline was submitted to a panel of experts for external review.

The final draft was submitted to the Guideline Review Panel for review prior to publication.

Evidence Supporting the Recommendations

References Supporting the Recommendations

American College of Obstetricians and Gynecologists. ACOG guidelines on endometrial ablation. Am Fam Physician. 2008 Feb;77:545-6.

Apgar BS, Kaufman AH, George-Nwogu U, Kittendorf A. Treatment of menorrhagia. Am Fam Physician. 2007 Jun 15;75(12):1813-9. PubMed

Bednarek PH, Jensen JT. Safety, efficacy and patient acceptability of the contraceptive and non-contraceptive uses of the LNG-IUS. Int J Womens Health. 2009;1(1):45-58. [124 references] PubMed

Bhavnani V, Clarke A. Women awaiting hysterectomy: a qualitative study of issues involved in decisions about oophorectomy. BJOG. 2003 Feb;110(2):168-74. PubMed

Brenner PF. Differential diagnosis of abnormal uterine bleeding. Am J Obstet Gynecol. 1996 Sep;175(3 Pt 2):766-9. PubMed

Cameron IT. Dysfunctional uterine bleeding. Baillieres Clin Obstet Gynaecol. 1989 Jun;3(2):315-27. PubMed

Committee opinion no. 505: understanding and using the U.S. Medical Eligibility Criteria For Contraceptive Use, 2010. Obstet Gynecol. 2011 Sep;118(3):754-60. PubMed

Edlund M. Nonhormonal treatments for heavy menstrual bleeding. J Womens Health (Larchmt). 2011 Nov;20(11):1645-53. PubMed

Edmonds DK. Menstrual changes in adolescence. Baillieres Clin Obstet Gynaecol. 1989 Jun;3(2):329-39. [30 references] PubMed

Ely JW, Kennedy CM, Clark EC, Bowdler NC. Abnormal uterine bleeding: a management algorithm. J Am Board Fam Med. 2006 Nov-Dec;19(6):590-602. [80 references] PubMed

Fennessy FM, Tempany CM, McDannold NJ, So MJ, Hesley G, Gostout B, Kim HS, Holland GA, Sarti DA, Hynynen K, Jolesz FA, Stewart EA. Uterine leiomyomas: MR imaging-guided focused ultrasound surgery--results of different treatment protocols. Radiology. 2007 Jun;243(3):885-93. PubMed

Fraser IS, Parke S, Mellinger U, Machlitt A, Serrani M, Jensen J. Effective treatment of heavy and/or prolonged menstrual bleeding without organic cause: pooled analysis of two multinational, randomised, double-blind, placebo-controlled trials of oestradiol valerate and dienogest. Eur J Contracept Reprod Health Care. 2011 Aug;16(4):258-69. PubMed

Fraser IS, Porte RJ, Kouides PA, Lukes AS. A benefit-risk review of systemic haemostatic agents: part 2: in excessive or heavy menstrual bleeding. Drug Saf. 2008;31(4):275-82. [70 references] PubMed

Fraser IS, Warner P, Marantos PA. Estimating menstrual blood loss in women with normal and excessive menstrual fluid volume. Obstet Gynecol. 2001 Nov;98(5 Pt 1):806-14. PubMed

Garside R, Britten N, Stein K. The experience of heavy menstrual bleeding: a systematic review and meta-ethnography of qualitative studies. J Adv Nurs. 2008 Sep;63(6):550-62. [29 references] PubMed

Geidam AD, Lawan ZM, Chama C, Bako BG. Indications and outcome of abdominal myomectomy in University of Maiduguri Teaching Hospital: Review of ten year. Niger Med J. 2011 Jul;52(3):193-7. PubMed

Ghazizadeh S, Bakhtiari F, Rahmanpour H, Davari-Tanha F, Ramezanzadeh F. A randomized clinical trial to compare levonorgestrel-releasing intrauterine system (Mirena) vs trans-cervical endometrial resection for treatment of menorrhagia. Int J Womens Health. 2011;3:207-11.

PubMed

Heikinheimo O, Gemzell-Danielsson K. Emerging indications for the levonorgestrel-releasing intrauterine system (LNG-IUS). Acta Obstet Gynecol Scand. 2012 Jan;91(1):3-9. PubMed

Hurskainen R, Grenman S, Komi I, Kujansuu E, Luoto R, Orrainen M, Patja K, Penttinen J, Silventoinen S, Tapanainen J, Toivonen J. Diagnosis and treatment of menorrhagia. Acta Obstet Gynecol Scand. 2007;86(6):749-57. PubMed

Kiley JW, Shulman LP. Estradiol valerate and dienogest: a new approach to oral contraception. Int J Womens Health. 2011;3:281-6. PubMed

Lethaby A, Cooke I, Rees MC. Progesterone or progestogen-releasing intrauterine systems for heavy menstrual bleeding. Cochrane Database Syst Rev 11. 2010;1-62

Lethaby A, Farquhar C, Cooke I. Antifibrinolytics for heavy menstrual bleeding. Cochrane Database Syst Rev 11. 2010;1-39

Lethaby A, Irvine GA, Cameron IT. Cyclical progestogens for heavy menstrual bleeding. Cochrane Database Syst Rev. 2009;1-22

Lukes AS, Moore KA, Muse KN, Gersten JK, Hecht BR, Edlund M, Richter HE, Eder SE, Attia GR, Patrick DL, Rubin A, Shangold GA. Tranexamic acid treatment for heavy menstrual bleeding: a randomized controlled trial. Obstet Gynecol. 2010 Oct;116(4):865-75. PubMed

Middleton LJ, Champaneria R, Daniels JP, Bhattacharya S, Cooper KG, Hilken NH, O'Donovan P, Gannon M, Gray R, Khan KS, International Heavy Menstrual Bleeding Individual Patient Data Meta-analysis, Abbott J, Barrington J, Bhattacharya S, Bongers MY, Brun JL, Busfield R, Sowter M, Clark TJ, Cooper J, Cooper KG, Corson SL, Dickersin K, Dwyer N, Gannon M, Hawe J, Hurskainen R, Meyer WR, O'Connor H, Pinion S, Sambrook AM, Tam WH, van Zon-Rabelink IA, Zupi E. Hysterectomy, endometrial destruction, and levonorgestrel releasing intrauterine system (Mirena) for heavy menstrual bleeding: systematic review and meta-analysis of data from individual patients. BMJ. 2010;341:c3929. [75 references] PubMed

Munro MG, Critchley HO, Broder MS, Fraser IS, FIGO Working Group on Menstrual Disorders. FIGO classification system (PALM-COEIN) for causes of abnormal uterine bleeding in nongravid women of reproductive age. Int J Gynaecol Obstet. 2011 Apr;113(1):3-13. PubMed

Munro MG. Management of heavy menstrual bleeding: is hysterectomy the radical mastectomy of gynecology. Clin Obstet Gynecol. 2007 Jun;50(2):324-53. [185 references] PubMed

Roy SN, Bhattacharya S. Benefits and risks of pharmacological agents used for the treatment of menorrhagia. Drug Saf. 2004;27(2):75-90. [113 references] PubMed

Stovall DW. Alternatives to hysterectomy: focus on global endometrial ablation, uterine fibroid embolization, and magnetic resonance-guided focused ultrasound. Menopause. 2011 Apr;18(4):437-44. PubMed

Sweet MG, Schmidt-Dalton TA, Weiss PM, Madsen KP. Evaluation and management of abnormal uterine bleeding in premenopausal women. Am Fam Physician. 2012 Jan 1;85(1):35-43. PubMed

Warner PE, Critchley HO, Lumsden MA, Campbell-Brown M, Douglas A, Murray GD. Menorrhagia I: measured blood loss, clinical features, and outcome in women with heavy periods: a survey with follow-up data. Am J Obstet Gynecol. 2004 May;190(5):1216-23. PubMed

Warner PE, Critchley HO, Lumsden MA, Campbell-Brown M, Douglas A, Murray GD. Menorrhagia II: is the 80-mL blood loss criterion useful in management of complaint of menorrhagia. Am J Obstet Gynecol. 2004 May;190(5):1224-9. PubMed

Wilansky DL, Greisman B. Early hypothyroidism in patients with menorrhagia. Am J Obstet Gynecol. 1989 Mar;160(3):673-7. PubMed

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

- Improved evaluation, diagnosis, management, and referral of heavy menstrual bleeding
- Improved quality of life for patients with heavy menstrual bleeding

Potential Harms

- Increased cost due to evaluation recommendations
- Adverse and side effects of medications

Contraindications

Contraindications

Combined oral contraceptives (COCs) contraindications include:

- History of breast cancer
- History of or current deep venous thrombosis/pulmonary embolism (DVT/PE) or cerebrovascular accident (CVA)
- Diabetes: insulin-dependent; with nephropathy/retinopathy/neuropathy or other vascular disease; or of >20 years' duration
- Blood pressure systolic ≥160 mmHg, diastolic ≥100; vascular disease
- Current and history of ischemic heart disease
- Complicated valvular heart disease
- History of peripartum cardiomyopathy
- Less than 21 days postpartum
- Smokers ≥35 years
- Thrombogenic mutations
- Systemic lupus erythematosus, only with positive (or unknown) phospholipids antibodies
- History of migraines without aura, age ≥35; migraines with aura, any age
- Medically treated or current gallbladder disease
- Hepatocellular adenoma or malignant liver tumor
- Severe, decompensated cirrhosis
- Complicated solid organ transplantation (graft failure [acute or chronic], rejection, cardiac allograft vasculopathy)

Tranexamic acid (Lysteda) is contraindicated if patient has active intravascular clotting or subarachnoid hemorrhage.

Qualifying Statements

Qualifying Statements

Qualifying Statements

While every effort has been made to ensure the accuracy of the information contained within this publication, the publisher can give no guarantee for information about drug dosage and application contained in this guideline. In every individual case the respective user must check current indications and accuracy by consulting other pharmaceutical literature and following the guidelines laid down by the manufacturers of specific products and the relevant authorities in the country in which they are practicing.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Clinical Algorithm

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

University of Texas at Austin, School of Nursing, Family Nurse Practitioner Program. Evaluation and management of ovulatory heavy menstrual bleeding (HMB) in primary care. Austin (TX): University of Texas at Austin, School of Nursing; 2012 Mar. 18 p. [38 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2012 May

Guideline Developer(s)

University of Texas at Austin School of Nursing, Family Nurse Practitioner Program - Academic Institution

Source(s) of Funding

University of Texas at Austin, School of Nursing, Family Nurse Practitioner Program

Guideline Committee

Practice Guideline Committee

Composition of Group That Authored the Guideline

Primary Authors: Lauren Colletti, RN, MPH, MSN, FNP; Alicia Schanbacher, RN, MSN, FNP; Ellyn Scholz, RN, MSN, FNP; Lisa Scrimpsher, RN, MSN, FNP; and Olivia Wilder, RN, MSN, FNP

Internal Reviewers: Lisa Doggett, MD, MPH; Frances Sonstein, RN, MSN, FNP, CNS

External Reviewers: Kimberly Carter, MD

Financial Disclosures/Conflicts of Interest

Not stated

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: None available.

Print copies: Available from the University of Texas at Austin, School of Nursing. 1700 Red River, Austin, Texas, 78701-1499, Attn: Nurse Practitioner Program.

Availability of Companion Documents

None available

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on July 24, 2012. This summary was updated by ECRI Institute on September 18, 2015 following the U.S. Food and Drug Administration advisory on non-aspirin nonsteroidal anti-inflammatory drugs (NSAIDs).

Copyright Statement

Disclaimer

NGC Disclaimer